FITOREMEDIASI ION Cu^{2+} PADA LIMBAH CAIR LABORATORIUM DITINJAU DARI NISBAH TUTUP AREA KIAMBANG (*Salvinia molesta* D. S. Mitchell) TERSIER

PHYTOREMEDIATION Cu^{2+} ION IN LABORATORY WASTEWATER BASED ON AREA CLOSE RATIO SALVINIA (*Salvinia molesta* D. S. Mitchell) *TERTIARY*

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ABSTRACT

Phytoremediation is a method of utilizing plants and their parts as a medium pollutant absorbent media in the form of heavy metal ions such as Cu^{2+}. Tertiary S. molesta is a floating fern of leaf enclosed and overlapped with a leaf width of ± 2.2 cm. The objective of this studied to determine the optimal of Cu^{2+} ion adsorption from the chemical laboratory wastewater of Satya Wacana Christian University using tertiary S. molesta with a variation of the area cover ratio of the plant and determine the optimal area cover ratio of tertiary S. molesta in adsorbing Cu^{2+} ion in laboratory wastewater. The data were analyzed by Randomized Completely Block Design (RCBD), 6 treatments and 4 replications. As the treatment is a variation of the coverage ratio of the tertiary S. molesta cover area of 0% (control); 12.5%; 25%; 37.5%; 50%; and 62.5%. To test the differences between treatment means, the Honestly Significant of Differences (HSD) was used using 5% level of significance.

The results obtained that at the cover ratio of area 62,5%, tertiary S. molesta maximum absorbs Cu^{2+} ion. The optimal area cover ratio of 62.5% was able to absorb 49,09% Cu^{2+} ion contained in chemical laboratory wastewater of Universitas Kristen Satya Wacana in days 6 for 8 days. Thus, the tertiary S. molesta plant can be used as phytoremediator to Cu^{2+} ion of laboratory wastewater.

Keywords: *Cu^{2+} ion, phytoremediator, tertiary S. molesta*